

WRITERS AND EDITORS

Zin Cheung
Rick Hight
Fran Hurley
Kristy Schultz

PAGE LAYOUT AND DESIGN

Jitan Patel

ACKNOWLEDGEMENTS

We thank the following people for their support and assistance in the research and development of this guide:

Jim Albers - NIOSH
Joanette Alpert – Woodward, Alpert & Associates
Dave Bare – Cal/OSHA Consultation Service
Bob Bunyard – Eagle Grip Handle Co.
Nick Cloud – McCarthy, Inc.
Felipe Durand – Justin Framing, Inc.
Mario Feletto – Cal/OSHA Research & Education Unit
John Howard – NIOSH
Laborers' Training and Retraining Trust Fund of N. California
John Landavazo – Landavazo Bros., Inc.
Northern California Cement Masons, Joint Apprenticeship & Training Committee
Larry Reed II – McCarthy, Inc.
Ann Pudoff – Ergonomics Consultant
Scott Schneider – Laborers' Health & Safety Fund of N. America
Ron Slaven – Laborers' Local Union 185
Marie Haring Sweeney – NIOSH
Jeff Tiedeman— State Compensation Insurance Fund



CONSULTATION & TRAINING BRANCH

It provides free on-site consultations for employers that identify workplace hazards, suggests corrective actions and evaluates and makes recommendations to improve an employer's safety and health management system to prevent future hazards. The public can call the Branch to inquire about safety and health standards and other related topics.

State of Hawaii, Department of Labor & Industrial Relations
Division of Occupational Safety & Health (HIOSH)

Consultation & Training Branch
830 Punchbowl Street, Room 425
Honolulu, HI 96813

Phone: 808-586-9100; Fax: 808-586-9104
<http://hawaii.gov/labor/hiosh>

November, 2008



ERGONOMIC SURVIVAL GUIDE FOR

LABORERS



What will happen to your family and your lifestyle if you get injured and can't work? What will you lose if you get injured?

- **Your salary**
- **Your quality of life**
- **Your job advancement**
- **Future job opportunities**

WHAT CAN YOU DO TO AVOID AN INJURY?

This SURVIVAL GUIDE is designed to promote awareness of safe work practices for LABORERS. It was made available by Cal/OSHA, California Dept. of Industrial Relations & modified by HIOSH, Hawaii Dept. of Labor & Industrial Relations, Phone: 808-586-9100.



What Can Make You Hurt?

There are certain things in your job that can lead to fatigue, discomfort, or pain when you do them **repeatedly or without breaks**.

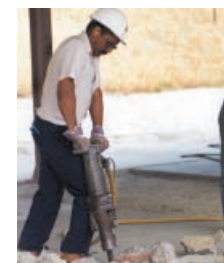
These include:

- Exerting force to perform a task or to use a tool.
- Working in positions such as bending, stooping, twisting, and overhead reaching.
- Using awkward back, hand, wrist, elbow, or shoulder postures.
- Remaining in the same position for a long time with little or no movement.
- Continuous pressure from a hard surface or edge on any part of the body.
- Working in very hot or very cold temperatures produced by climate, equipment, or machines.
- Sitting on, standing on, or holding equipment or tools that vibrate.

In addition, stressful work situations can increase muscle tension and reduce awareness of proper work technique.

Most common injuries:

Back
Fingers/Hands
Knees



Prepare Yourself for Work

Just as a runner prepares for a race event by warming up, prepare for work by warming up and stretching. Warm up by walking, marching in place, or moving your arms in circles. Once your muscles are warm:

- Stretch S-L-O-W-L-Y and hold each stretch 3-5 seconds.
- Stretch a few minutes before and during your workday.

Caution: Check with your doctor before exercising. If you feel discomfort while exercising stop immediately!

Stretch the Low Back and Hips



Stretch each Arm and Shoulder



Stretch each Leg



While you are off work, keep yourself physically ready for returning to work, whether it's the next day or later.

Lifting Tips

- Use teamwork and mechanical aids whenever possible.

General lifting tips:

- Face the load.
- Bend your knees and keep your back straight.
- Bring the load close to your body.
- Breathe out and tighten your stomach as you lift.

3-point lifting tips:

- Use a 3-point lift when handling plank or sheet material by yourself.
- If material is too heavy or awkward, get help and/or use mechanical aids to lift and transport materials.

1. Squat



2. Tilt on end



3. Lift



**KEEP THE LOAD OR TOOL
CLOSE TO YOUR BODY**



Reaching and lifting or carrying a **10 pound** object that is **25 inches** from your spine is equal to **250 pounds** of force on your lower back.



Reaching and lifting or carrying a **10 pound** object that is **10 inches** from your spine is equal to **100 pounds** of force on your lower back.

Make It Easy on Yourself



PROTECT YOURSELF.

Use padding to protect yourself from hard, sharp edges that put pressure on your body. Wear eye protection, gloves, a hard hat, safety shoes, and other personal protective equipment (PPE) when necessary. Choose PPE that fits and is appropriate for the task.



PRACTICE GOOD HOUSEKEEPING.

Pick up debris and scrap material to prevent slips, trips and falls. Good housekeeping allows you to get closer to your work. Keep pathways clear for carts, wheelbarrows, and dollies.



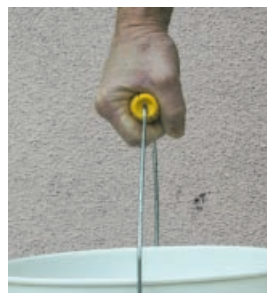
POSITION YOURSELF.

Face your work directly to prevent twisting, reaching, or bending. This technique can increase your comfort level and improve your work accuracy and quality.



USE A MORE COMFORTABLE HANDLE.

When lifting a bucket, you will use less grip force if you increase the diameter of the handle by adding padding, or by using a handle that has a bigger diameter.



Be Aware

If you experience symptoms, you must change the way you work or the tools you use. If you don't change, your symptoms may get worse and may keep you from working at all.

You may have a problem if you have any of these symptoms:

- Constant fatigue
- Cold hands
- Swelling
- Numbness
- Tingling
- Lack of energy
- Changes in skin color
- Weakness
- Loss of sensation
- Aching, burning, or shooting pain

Where?

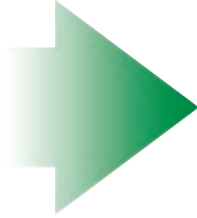
- Back
- Neck
- Shoulders
- Arms
- Hands
- Fingers
- Knees

If you develop any symptoms:

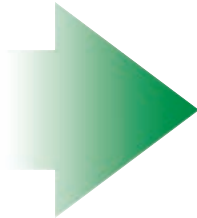
- Talk with your foreman about your symptoms right away.
- Work with your foreman to identify the cause of the problem.
- Follow your company's ergonomics program and its Injury and Illness Prevention Program.
- Always look for better ways to do your job.

A TYPICAL WAY

Twisting the body while lifting a shovel may injure the joints and muscles in your shoulders, elbows, wrists, and back. It may keep you from ever working again.



Using a short handled tool puts direct pressure on the palm of your hand. Over time you may feel numbness and weakness in your hand when using a short-handled tool.



Working in an awkward posture, such as bending, for a long time, may tire you and strain your muscles, reducing your productivity throughout the day.



A SAFER WAY

Here are ways to minimize twisting while shoveling:



- When lifting, put your weight on your front foot.
- Before throwing, shift your weight to your rear foot.
- When throwing, turn your front foot in the direction of the throw.



- Using a tool that has a longer handle spreads the pressure over a larger area of your hand.



- Change postures so that you do not stay in the same position for a long time.
- Stand and stretch to reduce the effects of bending.
- Work at different job tasks whenever possible.

